

IN THE CLAIMS

Please amend claims 16 and 18 as set forth below.

Please add new claims 23-26 as set forth below.

1. – 15.(Withdrawn)

16. (Currently Amended) A semiconductor device comprising:

a plurality of layers of semiconductor material epitaxially grown one on another;

and

at least one of the semiconductor layers including a surfactant incorporated within
~~with~~ the semiconductor material.

17. (Original) A semiconductor device as claimed in claim 16 wherein the surfactant is chosen from the group consisting of antimony, indium, bismuth and thallium.

18. (Currently Amended) A semiconductor device as claimed in claim 17 wherein the surfactant atoms and the semiconductor material atoms in the at least one of the semiconductor layers are in a flux ratio in a range of approximately from 0.0001 to 0.1.

19. (Original) A semiconductor device as claimed in claim 16 wherein the semiconductor material includes one of aluminum and gallium.

20. (Original) A semiconductor device as claimed in claim 19 wherein the surfactant includes antimony.

21. (Original) A semiconductor device as claimed in claim 20 wherein the flux ratio is in a range of approximately 0.0001 to 0.1.

22. (Original) A semiconductor device as claimed in claim 16 wherein the semiconductor device includes at least one of a high electron mobility transistor, a vertical cavity surface emitting laser, an edge emitting laser, a heterostructure bipolar transistor, a resonant tunneling diode, and the like.

23. (New) A semiconductor device comprising:

a plurality of layers of semiconductor material epitaxially grown one on another, one of the plurality of semiconductor layers including $\text{Al}_x\text{Ga}_{1-x}\text{As}$, wherein x is a number within a range from zero to one;

the one of the plurality of semiconductor layers including an antimony surfactant incorporated within the $\text{Al}_x\text{Ga}_{1-x}\text{As}$; and

antimony surfactant atoms and $\text{Al}_x\text{Ga}_{1-x}\text{As}$ atoms in the one of the plurality of semiconductor layers being in a flux ratio in a range of approximately 0.01 to 0.02.

24. (New) A semiconductor device comprising:

one of a high electron mobility transistor, a vertical cavity surface emitting laser, an edge emitting laser, a heterostructure bipolar transistor, and a resonant tunneling diode including a plurality of layers of crystalline semiconductor material epitaxially grown one on another;

at least one of the plurality of layers of crystalline semiconductor material including a surfactant incorporated within the crystalline semiconductor material.

25. (New) A semiconductor device as claimed in claim 24 wherein the at least one of the plurality of layers of crystalline semiconductor material includes $\text{Al}_x\text{Ga}_{1-x}\text{As}$, wherein x is a number within a range from zero to one.

26. (New) A semiconductor device as claimed in claim 27 wherein the surfactant incorporated within the crystalline semiconductor material includes antimony, antimony surfactant atoms and $\text{Al}_x\text{Ga}_{1-x}\text{As}$ atoms incorporated within the crystalline semiconductor material being in a flux ratio in a range of approximately 0.01 to 0.02.